

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/JP2004/051945

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H01L23/498 H01L23/31 H01L23/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/153605 A1 (CHANG NAI-SHUNG) 24 October 2002 (2002-10-24)	1, 2, 6-10
Y	paragraphs '0006!', '0015!', '0027!; claim 5; figures 2,3	3-5
X	WO 96/23320 A (INTEL CORPORATION) 1 August 1996 (1996-08-01)	1, 2, 6-10
Y	figures 1-3 and the corresponding description	3-5
Y	US 6 509 646 B1 (LIN WEI-FENG ET AL) 21 January 2003 (2003-01-21) the whole document	3
Y	US 2002/017399 A1 (CHANG HUEY-RU ET AL) 14 February 2002 (2002-02-14) paragraph '0064!	4, 5
	-/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

15 March 2005

Date of mailing of the international search report

23/03/2005

Name and mailing address of the ISA

 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Cortes Rosa, Joao

INTERNATIONAL SEARCH REPORT

Int. Patent Application No.
PCT/IB2004/051945

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/142574 A1 (CHEN SHU-HUI ET AL) 3 October 2002 (2002-10-03) the whole document -----	1-10
A	US 2002/121679 A1 (BAZARJANI SEYFOLLAH ET AL) 5 September 2002 (2002-09-05) the whole document -----	1-10
A	US 6 448 639 B1 (MA SHU JUNG) 10 September 2002 (2002-09-10) the whole document -----	1-10

INTERNATIONAL SEARCH REPORT

 Inv. International Application No
 PCT/IB2004/051945

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2002153605	A1	24-10-2002	TW 511414 B	21-11-2002
			TW 517357 B	11-01-2003
			TW 517358 B	11-01-2003
			US 2002153166 A1	24-10-2002
			US 2002156538 A1	24-10-2002
WO 9623320	A	01-08-1996	AU 4697496 A	14-08-1996
			CN 1178602 A ,C	08-04-1998
			GB 2312786 A ,B	05-11-1997
			HK 1004702 A1	30-06-2000
			JP 10513012 T	08-12-1998
			KR 276165 B1	15-12-2000
			US 5982632 A	09-11-1999
			WO 9623320 A1	01-08-1996
US 6509646	B1	21-01-2003	NONE	
US 2002017399	A1	14-02-2002	TW 525417 B	21-03-2003
			US 2004149490 A1	05-08-2004
US 2002142574	A1	03-10-2002	NONE	
US 2002121679	A1	05-09-2002	BR 0207798 A	06-07-2004
			EP 1407491 A2	14-04-2004
			JP 2004523912 T	05-08-2004
			WO 02071486 A2	12-09-2002
US 6448639	B1	10-09-2002	NONE	